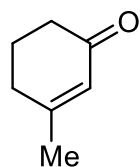


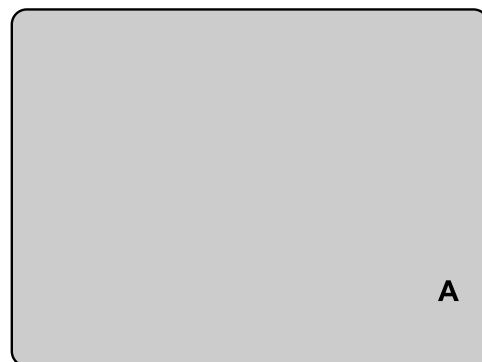
Total Synthesis of the Isodon Diterpene Sculponeatin N

B.J. Moritz, D.J. Mack, L. Tong, R.J. Thomson.

Angew. Chem. Int. Ed. **2014**, 53, 2988–2991.

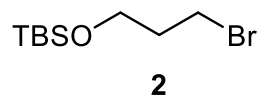
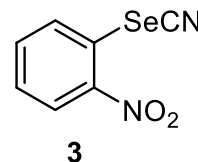
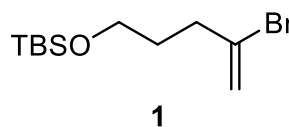


1-6



7-12

- 1) MeMgBr, CuI, LiCl *then* CH₂O
- 2) TBDPSCI, Imidazole
- 3) TMSCH₂CO₂Et, LDA
- 4) Me(OMe)NH·HCl, *i*PrMgCl
- 5) **1**, *t*BuLi
- 6) AlCl₃

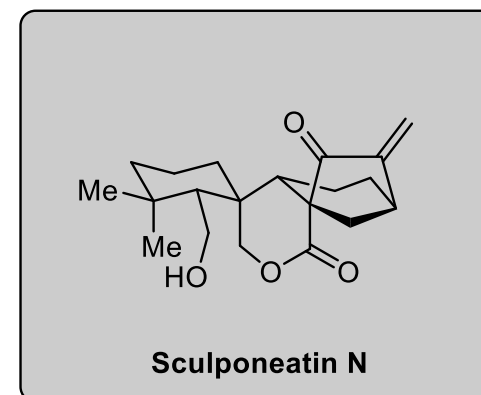


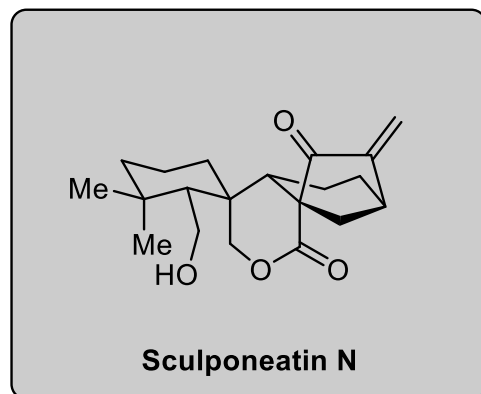
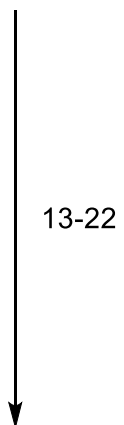
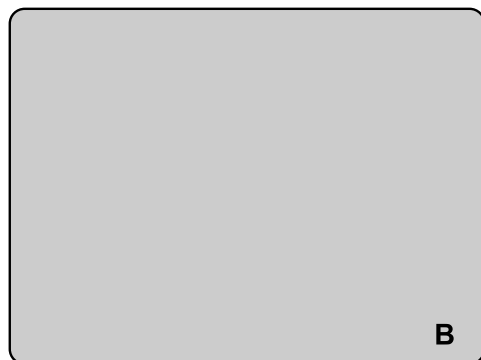
- 7) **2**, *t*BuLi, (2-thiophene)-Cu(CN)Li, BF₃·Et₂O
- 8) HF, MeCN
- 9) **3** (2.5 eq.), Bu₃P (3 eq.), *then* H₂O₂
- 10) TMSOTf, NEt₃
- 11) MeLi, allyl iodide
- 12) Grubbs II

3) Name reaction?

6) Name reaction?

9) Name reaction?





- 13) PdCl₂, CuCl, O₂
- 14) KHMDS, Comins reagent
- 15) TBAF, THF, rt
- 16) Bu₃SnH, AIBN
- 17) SeO₂, *t*BuOOH
- 18) TMSOTf, NEt₃
- 19) O₃, pyridine, *then* Me₂S
- 20) LiBH₄, 50 °C
- 21) TBAF
- 22) MnO₂

13) Name reaction?

14) Structure of Comins reagent?

15) Hint: no deprotection

17) Name reaction?